

## THROMBUS PREVENTION AND IMPEDANCE APPARATUS AND METHODS

### ABSTRACT OF THE DISCLOSURE

An apparatus and methods for the prevention or minimization of lower extremity venous  
5 thrombosis comprising an impedance component disposed at the proximal end of the lower extremity  
and a compression component disposed at the distal end of the lower extremity. The proximal  
impedance component is activated to impede return venous blood flow, preferably on the femoral vein,  
until blood volume in the lower extremity is maximized. In response to deactivation of the proximal  
compression component, the distal compression component is activated to assist return venous blood  
10 flow. The apparatus and methods enhance blood circulation in the lower extremity by increasing  
washout of stagnant blood from the lower extremity, particularly from the venous sinuses and valve  
cusps where thrombosis tends to form.